26. (Amended) A method of transplanting neural stem cell progeny to a host comprising:

(a) obtaining a population of cells derived from mammalian neural tissue containing at least one multipotent CNS neural stem cell, said neural stem cell under suitable culture conditions [capable of] producing progeny that differentiate [are capable of differentiating] into [neurons, astrocytes, and oligodendrocytes] neurons that express neuron specific enolase or neurofilament and glia that express glial fibrillary acidic protein or express galactocerebroside;

(b) culturing the neural stem cell in (a) in [preparing] a culture medium containing one or more growth factors [capable of inducing] which under suitable culture conditions induces multipotent neural stem cell proliferation;

(c) [preparing a cell culture by combining the cells obtained in (a) with the culture medium prepared in (b) to induce] inducing proliferation of said multipotent neural stem cell to produce neural stem cell progeny which includes [daughter] multipotent neural stem cell progeny cells; and

(d) transplanting said multipotent neural stem cell progeny to said host.

27. (Reiterated) The method of claim 26 wherein prior to step (d), said neural stem cell progeny are genetically modified to express a biological agent selected from the group consisting of growth factors, growth factor receptors, neurotransmitters, neurotransmitter synthesizing genes, neuropeptides, and chromaffin granule amine transporter.

32. (Amended) The method of claim 26 wherein said [one or more] CNS neural stem cells are maintained in a [growth factors in the] culture medium containing one or more growth factors [prepared in (b) is] selected from the group consisting of epidermal growth factor, amphiregulin, acidic fibroblast growth factor, basic fibroblast growth factor, transforming growth factor alpha, and combinations thereof.

33. (Amended) The method of claim 32 wherein said one or more growth factors in the culture medium [prepared] in (b) is epidermal growth factor.

34. (Amended) The method of claim 32 wherein said one or more growth factors in the culture medium [prepared] in (b) is a fibroblast growth factor.

35. (Reiterated) The method of claim 34 wherein said culture medium additionally contains epidermal growth factor.

36. (Amended) The method of claim 26 wherein the cells obtained in (a) [have not been] are not treated with serum *in vitro*[and the culture medium prepared in (b) is substantially serum-free].

37. (Amended) The method of claim 26 wherein prior to (d), at least one subsequent cell culture is prepared by combining said neural stem cell progeny with fresh culture medium containing one or more growth factors capable of inducing multipotent CNS neural stem cell proliferation to proliferate said [daughter] multipotent CNS neural stem progeny cells to produce more [progeny which include more daughter] multipotent CNS neural stem progeny cells.

39. (Amended) The method of claim 26 wherein prior to (d), said multipotent CNS neural stem cell progeny are induced to differentiate into differentiated neural cells.

40. (Amended) The method of claim [26] 39 wherein said differentiated neural cells are selected from the group consisting of [oligodendrocytes, astrocytes, neurons, and combinations thereof] neurons that express neuron specific enolase or neurofilament and glia that express glial fibrillary acidic protein or express galactocerebroside.

41. (Reiterated) The method of claim 26 wherein said neural stem cell progeny are transplanted to said host's central nervous system.

42. (Reiterated) The method of claim 41 wherein said neural stem cell progeny are transplanted to said host's spinal cord.

43. (Reiterated) The method of claim 41 wherein said neural stem cell progeny are transplanted to said host's striatum.

44. (Reiterated) The method of claim 41 wherein said neural stem cell progeny are transplanted to said host's hippocampus.

45. (Reiterated) The method of claim 41 wherein said neural stem cell progeny are transplanted into said host's frontal cortex.

Duplicate

46. (Reiterated) The method of claim 41 wherein said neural stem cell progeny are transplanted into said host's parietal cortex.

47. (Reiterated) The method of claim 41 wherein said neural stem cell progeny are transplanted to a lesioned region of said host's central nervous system.

48. (Reiterated) The method of claim 26 wherein said cells obtained in (a) are obtained from said host's neural tissue.

49. (Reiterated) The method of claim 26 wherein said cells obtained in (a) are derived from juvenile or adult mammalian neural tissue.

50. (Reiterated) The method of claim 26 wherein said cells obtained in (a) are derived from human neural tissue.

51. (Reiterated) The method of claim 26 wherein said mammalian neural tissue in (a) is selected from the group consisting of [tissue obtained from] cerebral cortex tissue, cerebellum tissue, midbrain tissue, brainstem tissue, spinal cord tissue, ventricular tissue, frontal lobe tissue, conus medullaris tissue, hypothalamus tissue, and combinations thereof.

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Kindly add new claims 52 - 59, as follows:

--52. (New) A method of transplanting neural stem cell progeny to a host comprising:

(a) obtaining an *in vitro* cell culture comprising mammalian CNS neural stem cells, wherein one or more cells in the culture (i) proliferates in a culture medium supplemented with one or more mitogens, (ii) retains the capacity for renewed proliferation, and (iii) maintains the multipotential capacity, under suitable culture conditions, to differentiate into neurons, astrocytes, and oligodendrocytes;

(b) transplanting said one or more cells to said host.

--53. (New) The method of claim 52 wherein the mammalian CNS neural stem cells are derived from adult mammalian CNS. --

--54. (New) The method of claim 53 wherein the mammalian CNS neural stem cells are derived from human mammalian CNS. –

--55. (New) The method of claim 52, wherein the mitogen is a growth factor selected from the group consisting of epidermal growth factor, amphiregulin, acidic fibroblast growth factor, basic fibroblast growth factor, transforming growth factor alpha, and combinations thereof.